

WHAT IS CLAIMED IS:

1. A method for rotating a point array including a plurality of points for projection onto a subject, the points arranged in a plurality of columns and rows and projectable onto the subject along scan lines, the method comprising:

determining the number of rows in the array;

determining a first distance between two scan lines;

establishing a number of redundant points, the redundant points falling on a single scan line; and

calculating an angle using the number of rows and the number of redundant points such that the first distance is achieved when the point array is rotated to coincide with the angle.

2. The method of claim 1 further including rotating the point array to coincide with the angle.

3. The method of claim 1 wherein the first distance is equal for any two adjacent scan lines, so that the first distance is operable to define a resolution of the point array on the subject.

4. The method of claim 1 further including:
determining a second distance between two points of the array; and
calculating the angle using the number of rows, the number of redundant points, and the second distance.

5. The method of claim 1 wherein, if the plurality of points are uniformly spaced when projected on the subject, then the number of rows divided by the number of redundant points is an integer.

6. The method of claim 5 further including calculating the angle as arctangent of the number of redundant points divided by the number of rows.

7. A system for converting image data in real time, the system comprising:

a first memory operable to store the image data;

a processing device connectable to the first memory, the processing device operable to manipulate the image data;

a second memory accessible to the processing device, the second memory operable to buffer the manipulated data; and

a pixel panel positioned in a first plane, the pixel panel operable to receive the buffered data and project the data upon a subject positioned in a second plane substantially parallel to the first plane, the pixel panel positioned at an angle relative to the subject.

8. The system of claim 7 wherein the processing device includes a plurality of instructions operable to calculate an address so that the image data is correctly displayed on the pixel panel.

9. The system of claim 7 further including a shift register, the shift register operable to receive the manipulated image data and shift the data into the second memory.

10. The system of claim 7 wherein the second memory is a frame buffer.

11. The system of claim 7 wherein the second memory is a line buffer.

12. The system of claim 11 further including a selector, the selector operable to select a frame from the frame buffer for transfer to the pixel panel.

13. The system of claim 7 wherein the processing device is a digital signal processing device.

14. A method for converting image data in real time for projection onto a subject, the method comprising:

retrieving at least a portion of the image from a memory;

calculating at least one address for the image portion, the calculation operable to determine the position of the image portion on a pixel panel positioned in a first plane and rotated relative to the subject, the subject positioned in a second plane that is substantially parallel to the first plane;

transferring the image portion to a buffer; and

transferring the image portion from the buffer to the pixel panel.

15. The method of claim 14 further including:

determining a location of at least one frame in the image; and

identifying the frame as the image portion to be retrieved.

16. The method of claim 14 further including calculating the position of the image portion using an angle of rotation of the pixel panel.

17. The method of claim 14 further including moving a pointer to a next image portion, so that the next image portion can be retrieved.

18. The method of claim 14 wherein the image portion is a predetermined number of bits.

19. The method of claim 18 wherein the address is calculated for each of the predetermined number of bits.

20. The method of claim 14 further including:
transferring a plurality of image portions to the buffer; and
selecting one of the plurality of image portions to transfer to the pixel panel.

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